

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of the Wisconsin Department of Transportation for a Determination of the Adequacy of Warning Devices and for the Improvement of a Public Crossing of the Wisconsin Central Ltd. Tracks with Mequon Road (STH 57/167) in the City of Mequon, Ozaukee County

9164-RX-613

FINAL DECISION

By letter dated August 17, 2005, the Wisconsin Department of Transportation (DOT) filed a petition with the Office of the Commissioner of Railroads (OCR) under §§86.13 and 195.28, Stats., for the improvement of a public crossing of the Wisconsin Central Ltd. (WCL) tracks with Mequon Road (STH 57/167) in the City of Mequon, Ozaukee County (crossing no. 386 841H / MP 101.57). DOT also requested that the OCR determine the adequacy of warning devices at the crossing.

Pursuant to due notice, public hearing was held in this matter on December 7, 2005 in Mequon, Wisconsin with hearing examiner Douglas S. Wood presiding.

On February 3, 2006, the hearing examiner issued a proposed decision. The Commissioner adopts the proposed decision as final without change.

Appearances:

**Parties**

Wisconsin Department of Transportation, Petitioner  
by  
Gregory Allen Baer, PE  
Railroad Project Coordination Engineer  
PO Box 7914  
Madison, Wisconsin 53707-7914

In Support:

City of Mequon  
by  
Jon J. Garms  
Director of Public Works  
11333 N. Cedarburg Road  
Mequon, WI 53092

As Interest May Appear:

Wisconsin Central Ltd.  
by  
Terry Lee, PE  
Manager Public Projects  
1625 Depot Street  
Stevens Point, Wisconsin 54481

## Findings of Fact

### THE COMMISSIONER FINDS:

The DOT and the City of Mequon propose to resurface Mequon Road (STH 57/167) in 2007. The crossing is included within the project limits. DOT proposes a concrete panel crossing surface. DOT proposes that the WCL pay 15% of the cost to reconstruct the crossing.

Mequon Road (STH 57/167) consists of two 36'-wide roadways separated by a 24'-wide median. Each roadway includes two 12'-lanes and an 8'-wide outside paved shoulder. There are 5'-wide sidewalks about 4.5' from the edge of pavement. Mequon Road (STH 57/167) intersects the tracks at an angle of 74° (right-hand forward). The roadway approaches to the crossing are essentially level. The crossing consists of one mainline track and one spur track. The spur track will be removed as part of the highway project with the agreement of the WCL. The existing crossing surface is timber-plank and asphalt.

The project will mill and overlay the existing roadway with hot mix asphalt. The DOT and the City propose to replace the existing crossing surface with a new concrete-paneled surface. Concrete panels are warranted based on existing and future traffic volumes.

Mequon Road (STH 57/167) carried 20,100 ADT (average daily traffic) in 2004. The DOT projects Mequon Road (STH 57/167) will carry 31,200 ADT in the design year of 2026. The speed limit is and will remain 40 mph.

The railroad currently operates 2 through train movements per day over the Mequon Road crossing at a speed of 20 mph. The railroad also operates 2 switch movements per week at a maximum speed of 10 mph. The Wisconsin & Southern Railroad Co. (WSOR) also operates 6 through movements per week over the crossing. The switch movements will no longer cross the roadway after the spur track is removed.

A driver traveling at 40 mph needs a distance of 335' to stop safely. The crossing is visible from more than 335' in each direction. Assuming a train speed of 20 mph, a driver traveling at 40 mph needs to see a train when it is 205' from the crossing from a point 335' down the highway. The corner sight distance is inadequate in each quadrant except the southeast.

At all crossings, except those with gates, a driver stopped 15' short of the near rail must be able to see far enough down the track, in both directions, to determine if sufficient time exists for moving their vehicle safely across the tracks to a point 15' past the far rail, prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the "design" vehicle. The necessary clearing sight distance at the Mequon Road (STH 57/167) crossing is 450'. The available clearing sight distance is less than 450' in the southeast and southwest quadrants.

The exposure factor at this crossing is about 60,000. The exposure factor at this crossing will exceed 93,000 in the design year assuming 3 train movements per day. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

Three train-vehicle accidents have occurred at this crossing since 1973. The accidents occurred in 1995, 1978, and 1973.

The crossing presently has cantilevered 12" incandescent automatic flashing lights and advance warning signs for warning devices. These warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety, cantilevered 12" LED automatic flashing lights and mast-mounted 12" LED signals in the median with gates and constant warning time circuitry are needed because of the exposure factor and inadequate corner and clearing sight distances.

*Constant warning time circuitry* adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

*Light emitting diodes (LED)* lamps replace incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

**Source of funding:** The signal materials and installation shall be paid for by the highway project. The cost of the crossing work shall be apportioned 85% to the highway project and 15% to the railroad.

#### Ultimate Conclusions on the Issues

##### THE COMMISSIONER CONCLUDES:

1. That the improvement of the crossing at-grade of Mequon Road (STH 57/167) with the Wisconsin Central Ltd. tracks in accordance with the design plans of the Wisconsin Department of Transportation and the City of Mequon in the City of Mequon, Ozaukee County will promote public safety and convenience.
2. That in order to adequately protect and promote public safety, it is necessary to install and maintain cantilevered 12" LED automatic flashing lights with gates.
3. That it is reasonable that the Wisconsin Central Ltd. bear 15% of the cost for the crossing construction.

#### Conclusion of Law

##### THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §§86.13, 195.28 and 195.29, Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Wisconsin Central Ltd.** shall install and maintain a concrete-paneled crossing at-grade of **Mequon Road (STH 57/167)** with its tracks in accordance with the design plans of the Wisconsin Department of Transportation and the City of Mequon in the City of Mequon, Ozaukee County by **July 15, 2007**. (Crossing No. 386 841H / MP 101.57)

2. That the **Wisconsin Central Ltd.** shall install and maintain cantilevered and mast-mounted 12" LED automatic flashing lights with gates, constant warning time circuitry, and other appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **Mequon Road (STH 57/167)** at-grade in the City of Mequon in the City of Mequon, Ozaukee County by **July 15, 2007** (Crossing No. 386 841H / MP 101.57).

3. That the **Wisconsin Central Ltd.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

4. That the signal installation work herein ordered shall not begin until the regional office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

5. That the **Wisconsin Central Ltd.** shall bear 15% of the cost of the crossing construction and any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

6. That jurisdiction is retained.

Dated at Madison, Wisconsin, (February 24, 2006).

By the Office of the Commissioner of Railroads.

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Rodney W. Kreunen  
Commissioner of Railroads

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